

REMARKS

Claims 1-21 are now in the application. No claims have been amended in this Response. No new matter has been added.

Applicants enclose a copy of form PTO/SB/08 that was originally submitted in an Information Disclosure Statement (IDS) filed on April 22, 2005. As evidenced by the U.S. Patent Offices PAIR website, the April 22 IDS was entered into the record of this application. Applicants respectfully request that the initialed copy be returned with the next Patent Office communication and the citations listed on the form be considered and listed on any Patent issuing from this application.

Claims 1-3, 15 and 16 have been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,332,705 to Huang et al. in view of U.S. Patent No. 5,063,194 to Broecker et al.

Claim 1 recites, among other features, a process for regenerating a hydrogenation catalyst.

As appreciated by the Examiner, Broecker is directed to a method of making and using a palladium catalyst, but not for regenerating a catalyst. It is noted that Broecker fails to suggest that the palladium catalyst suggested therein has been used in a gas-phase selective hydrogenation of acetylene in a C₂ fraction or of propyne and/or propadiene in a C₃ fraction, as recited in claim 1. Instead, Broecker suggests that the catalyst may be used for hydrogenating compounds containing a triple bond, as exemplified by the reduction of HDHL to HLIN. Broecker fails to suggest features corresponding to a method for regenerating a palladium catalyst or even that the catalyst foil, mesh or fabric may have to be regenerated after being used for hydrogenation acetylene in a C₂ fraction or propyne and/or propadiene in a C₃ fraction.

In addition, even if Huang and Broecker are combined, despite the lack of motivation or rationale to do so, a skilled artisan would not have expected the surprising results that can be achieved by the claimed method described throughout Applicants' disclosure. By way of non-

limiting example, there was no reasonable expectation that the claimed method would restore the catalytic activity to 98%, as set forth in Table 1 on page 5 of the specification.

Independent claim 1 further recites stripping at from 50 to 250°C. As acknowledged in the Office Action, Huang also fails to suggest this feature of claim 1. However, the Office Action asserts that the temperature range of about 260 °C - 400 °C suggested in Huang encompasses the claimed range of 50 to 250 °C. Applicants respectfully submit that there is no indication in Huang that the range could be lower than 260 °C especially since the preferred embodiment specifically refers to 350 °C, which is 90 °C higher than the lowest temperature contemplated in Huang. In addition, there is no disclosure in Huang concerning the degree of deviation from 260 °C contemplated by Huang. The preferred temperature range is about 315 °C – 372 °C and more preferred is about 350 °C which would lead those skilled in the art away from using a temperature below 260 °C. Applicants note that the assertion in paragraph 2 on page 9 of the Office Action that 260 °C is not indicated as a critical minimum in Huang has no bearing on what is actually suggested in Huang.

The Office Action further asserts, at page 9, paragraph 2, that White suggests a temperature of more than 150 °C. However, White neither suggests a nonporous, metallic support nor that such a support has been used in a gas-phase selective hydrogenation of acetylene in a C₂ fraction or of propyne and/or propadiene in a C₃ fraction, as positively recited in claim 1. Instead, White suggests metallic nickel on activated alumina, calcium carbonate, or sepiolite, and, further, hydrogenation of petroleum hydrocarbons, such as straight run naphta. There is no indication in any of the applied citations why the hydrogen stripping suggested in Huang should be combined with the catalyst support suggested in Broecker and with the temperature range suggested in White.

Claims 4, 5, 17, and 21 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Huang in view of Broecker and in further view of White et al. (GB 907,348). The Office Action relies on White for suggesting a temperature of 150 °C. However, as set forth above, White suffers from the same deficiencies as Huang in that it fails to suggest a nonporous, metallic support.

Claims 6-11 and 18 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Huang in view of Broecker and in further view of Cosyns et al. (GB 1,158,418). Cosyns is applied for suggesting rinsing a catalyst with nonpolar solvents. Cosyns is not applied in a manner to cure the deficiencies of Huang and Broecker discussed above.

Claim 10 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Huang in view of Broecker and Cosyns and in further view of White. White is applied for suggesting a regeneration process ex-situ but not to cure the deficiencies of Huang and Broecker.

Claim 12 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Huang in view of Broecker and in further view of WO 94/00232 to Huang (hereinafter "Huang II"). Remarkably, Huang II claims priority from Huang, yet the features on which the Office Action relies on in Huang II are not supported in Huang. Specifically, the Office Action asserts that the air burn suggested in Huang II can reasonably be considered to correspond to the oxidative treatment recited in claim 12. However, Huang II suggests Al_2O_3 and SiO_2 as catalyst carrier materials. Huang II fails to suggest a nonporous, metallic support, as recited in claim 1.

Claims 13, 14, and 19 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Huang in view of Broecker and in further view of U.S. Patent No. US 5,130,172 to Hicks et al. Hicks is applied for suggesting a thin-film catalyst. However, Hicks is not applied in a manner to cure the deficiencies of Huang and Broecker as discussed above.

Claim 20 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Huang in view of Broecker and in further view of Huang II. The Office Action asserts that Huang suggests, at page 10, lines 20-21, a silver-doped palladium catalyst. However, as set forth on page 15, line 10, of Huang II, the silver containing catalyst is provided on SiO_2 as a catalyst carrier and not on a nonporous, metallic support. Thus, again, Huang II fails to cure the deficiencies of Huang and Broecker.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

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Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 22-0185, under Order No. 13156-00008-US from which the undersigned is authorized to draw.

Dated: February 9, 2009

Respectfully submitted,

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